



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/632,017 08/02/00 BRIMER

J NORTH-358G/A

000542 IM52/0829
NORTHROP GRUMMAN CORPORATION
PATENT DEPARTMENT M/S 90/110/CC
1840 CENTURY PARK EAST
LOS ANGELES CA 90067-2199

EXAMINER

JACKSON, M

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

08/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/632,017	Applicant(s) BRIMER ET AL.	
	Examiner Monique R Jackson	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/29/01 has been entered. Claims 16-23 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Merval et al (USPN 5,387,653.) Merval et al teach thermoplastic powders for the direct adherent coating of metal substrates, i.e. without requiring an intermediate primer layer, based on a polyamide and/or polyetheresteramide (*equivalent to acid-impervious polymer particulate*), and containing an effective amount of a polycondensate of an aromatic sulfonamide with an aldehyde or dicarboxylic acid (*equivalent to powder adhesive*) (Abstract.) The polyamide powder is preferably polyamide 11 or polyamide 12 or copolymers of the two, which are inherently "acid-impervious" up to about 700°F (Col. 2, lines 26-33.) The condensation resins preferably have a melting point ranging from 50 to 180°C (Col. 3, lines 18-21.) The mixture may various other components such as fillers, pigments, hardening and crosslinking agents (Col. 3, lines 36-38.) Exemplary of the hardening or crosslinking agents are isocyanate compounds, phenolic ether resins, etc. (Col. 3, lines 46-48.) The metal substrate may be a piece of ordinary or galvanized steel (Col. 4, lines 50-51.) The coating composition may be applied by electrostatic coating

wherein the powder particles are retained on the surface by their electrostatic attraction and the forces of electrostatic attraction are sufficient such that the powder coated substrate may not only be coated with the powder, but also placed into a furnace at a temperature effecting the fusion or crosslinking of the coating powders (Col. 5, lines 30-34 and 48-54.) Merval et al specifically teach examples wherein a steel plate is coated with the powder coating composition comprising nylon 11, which is inherently "acid impervious" up to about 700°F, and the coated substrate is placed in a furnace heated to $220\pm 20^{\circ}\text{C}$ to cure the coating composition to produce a cured coating layer on the metal surface, hence, the powder adhesive is inherently curable at a temperature below about 650°F (Examples.) Therefore, considering the powder condensate (*powder adhesive*) does not provide adhesive properties until after heating the coated substrate in a furnace, the invention taught by Merval et al anticipates the instantly claimed invention.

4. Claims 16-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Perraud et al (USPN 5,830,975.) Perraud et al teach a coated metal structure comprising a metal surface, such as ordinary or galvanized steel articles, having deposited thereon a powder coating mixture of a polyamide powder, such as polyamide 11 which is inherently "acid impervious" up to about 700°F, and a polymer (A) powder containing hydroxyl functional groups with a melting point of between 130°C and 190°C , such as ethylene/vinyl alcohol copolymer with the best adhesiveness performance of the coating obtained with molar ethylene contents of more than 40% in the copolymer (*equivalent to powder adhesive*) wherein the mixture is heated or cured at an increased temperature after deposition on the steel surface to adhesively bond the mixture to the substrate surface and form a coating on the metal substrate (Abstract; Col. 1, lines 43-Col. 2, lines 67; Col. 4, lines 53-56.) The powder coating is applied to the metal surface and the coated

substrate is passed through an oven maintained at 220°C for 5 to 15 min to “cure” the coating composition to form a “cured” coating layer on the metal surface, hence the polymer A powder is “curable” at a temperature below 650°F (Example 1.)

5. Claims 16-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al (USPN 5,993,975.) Tanaka et al teach a coating composition which is capable of forming a coating on various substrates, such as a **steel plate** which is **desirably** zinc or zinc alloy-plated steel plate, a coating film superior in processability, corrosion resistance, adhesive property, impact resistance, and scratch resistance (Abstract; Col. 6, lines 66-10.) The steel plate is desirably a zinc or zinc alloy-plated steel plate wherein examples of zinc alloy-plated steel plates include galvanized steel, nickel/zinc alloy-plated steel, and aluminum/zinc alloy plated steel, with hot-dip-zinc or zinc alloy plated steel plate being preferable from the standpoint of the corrosion resistance of the coated plates (Col. 7, lines 1-10.) The coating composition comprises a polyester resin and a melamine resin curing agent which together constitute a curable adhesive material, a rust preventive pigment, and organic polymer fine particles which do not melt and flow out during the curing of the composition applied and, even after the curing, remain as particles which can impart rough texture on the coating film surface, particularly preferable is polyamide resin like nylon 11 or nylon 12, which hence are inherently “acid-impervious” up to about 700°F (Abstract; Col. 5, lines 31-47.) The coating composition may be applied to the substrate utilizing various coating methods after application is preferably cured at 160-260°C, particularly 200-230°C, to provide on the metal surface a cured coating layer comprising polyamide fine particles (which is the same as the instantly claimed cured layer) (Col. 7, lines 51-9.) Tanaka et al specifically teach an example utilizing a coating composition comprising an

80/20/10 weight ratio of polyester resin to melamine resin to nylon fine particles, respectively, coated on a hot-dip-galvanized steel surface and baked for 60 seconds at such temperature that the maximum temperature of the based material, the steel plate, became 220°C (Example 1.)

Given that Tanaka et al teach that the coating composition may be applied to various substrates including a **steel plate** which is **preferably** zinc-plated or galvanized steel, the Examiner takes the position that the invention taught by Tanaka et al does not exclude an untreated steel plate though the steel plate is **preferably** a zinc-plated steel plate. Therefore, considering Tanaka et al clearly teach the use of a steel plate as a substrate to be coated and given that one having ordinary skill in the art at the time of the invention would clearly envisage an untreated steel surface as well as a treated steel surface, the invention taught by Tanaka et al anticipates the instantly claimed invention.

6. Alternatively, Claims 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. The teachings of Tanaka et al are discussed above. Tanaka et al teach that the coating composition may be applied to various substrates including a **steel plate** which is **preferably** a zinc-plated or galvanized steel plate. Tanaka et al further teach several examples which all utilize treated steel plates. Though Tanaka et al teach that the substrate may be a steel plate they do not specifically state that the steel plate is an untreated or bare steel plate.

However, zinc plating or other treatment processes are well known and conventional in the art based on the desired corrosion resistance or desired end use of the coated steel surface. In fact, Tanaka et al teach that a hot-dip-zinc or zinc alloy plated steel plate is preferred from the standpoint of the corrosion resistance of the coated plates. Therefore, it would have been obvious to one having ordinary skill in the art to utilize an untreated steel surface or any other

Art Unit: 1773

type of steel plate as the substrate to be coated in the invention taught by Tanaka et al based on the desired end use of the coated metal structure.

Response to Arguments

7. Applicant's arguments filed 6/29/01 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj

August 28, 2001



Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700